DOCUMENT RESUME

ED 233 674 IR 010 749

AUTHOR	Sather, Ruth; And Others
TITLE	Elementary Computer Literacy. Student Activity Handbook.
INSTITUTION	National Business Inst., Eau Claire, WI.
PUB DATE	82
NOTE	72p.; A filmstrip and audiotape cassette is available with this material. For related document, see IR 010 750.
AVAILABLE FROM	National Business Institute, 407 Galloway Street, PO Box 1626, Eau Claire, WI 54701. ($110.00 per set; extra copies of student handbook, $5.95 each plus $1.50 shipping costs).
PUB TYPE	Guides - Classroom Use - Materials (For Learner) (051)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Computer Literacy; *Computer Programs; Elementary Education; *Flow Charts; Glossaries; *Learning Activities; *Microcomputers; *Programing; Workbooks
IDENTIFIERS	Apple II; BASIC Programing Language

ABSTRACT

This workbook of ideas and activities is designed for use in correlation with the curriculum guide "Elementary Computer Literacy," which contains the answer key and suggestions for use. The Apple II microcomputer is used as an example, but the material is adaptable to other computer models. Varied activities provide practice in drawing, vocabulary development (crosswords, word searches, matching, short answer, flashcards), program writing, flow-chart development, and writing skills (poetry, creative writing), and include a variety of pencil and paper activities. Contents are organized according to six general topics, with a review following each section: (1) What is a computer? (2) How do computers work? (3) Student interaction with computers; (4) Beginning programming; (5) Everyday computers; and (6) History of computers. An operator's license and certificate are included for students who complete a computer operator training program. Suggestions for student-prepared bulletin boards and a glossary of computer terms complete the workbook. (LMM)

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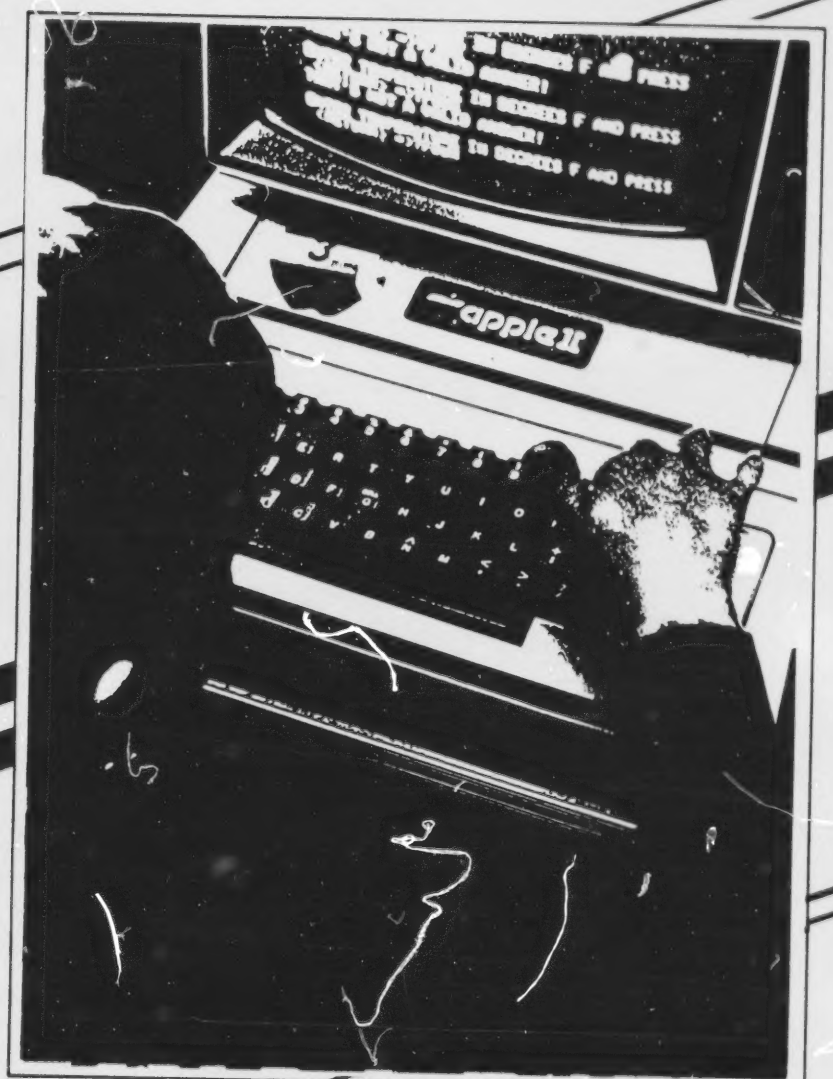
Elementary COMPUTER LITERACY



Student Activity Handbook

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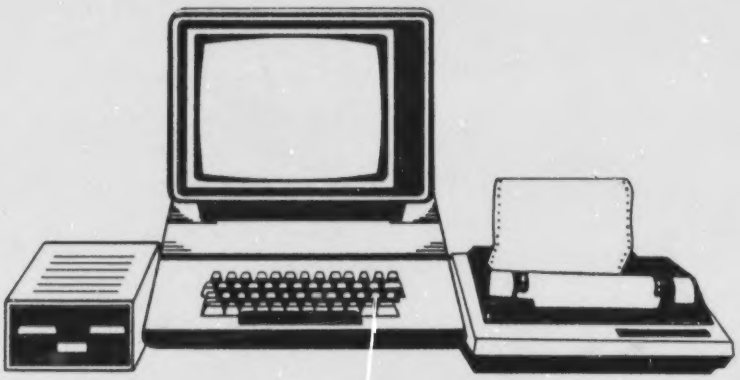
Student



Computer Activity Handbook

by Ruth Sather
With the help of her good friends and colleagues,
Lynn Schulz and Betty Dahl

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I

Dedication

For our creative, innovative
young friends who are eager to delve
into the intriguing and fascinating
World of Computers.

TABLE OF CONTENTS

		Page
Part I	- What is a Computer?	1
Part II	- How Do Computers Work?	12
Part III	- Student Interaction with Computers	33
Part IV	- Beginning Programming	37
Part V	- Everyday Computers	50
Part VI	- History of Computers	57
Part VII	- Bulletin Board Ideas	60
Part VIII	- Glossary	66

Throughout this Elementary Literacy System the Apple II has been used as an example. Regardless of this fact, all material is easily adaptable to any model of computer.

What is a Computer?

MY COMPUTER

Draw a Picture of a Computer.

MY COMPUTER

Now that you have made a picture of what you think a computer looks like, stretch your imagination and draw what you think the inside of the computer looks like. Remember a computer is capable of doing many things.

BRAIN EXTENDERS

The computer is capable of adding to and extending human capabilities. Find or draw pictures of other machines besides computers that can extend human capabilities. Beside each picture describe briefly what the machine does, its importance in today's world and how it extends human capabilities.

EXAMPLE:

AUTOMOBILE

Means of transportation.
Gets us from one place to another very quickly.
Much faster than we go by foot!

BRAIN EXTENDERS (cont.)

COMPUTER POETRY

Read the sample computer poem below. Then try to write your own in the space provided.

What can a computer do?
Almost anything you tell it to.
A tireless, unforgetful friend
With so many helping hands to lend.

A COMPUTER COMMAND

Create a story using the letters of the word COMPUTER

C

O

M

P

U

T

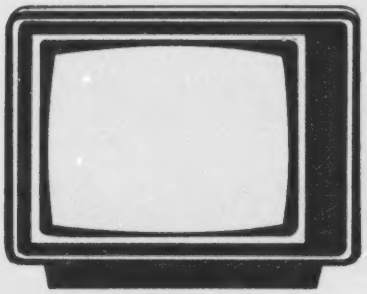
E

R

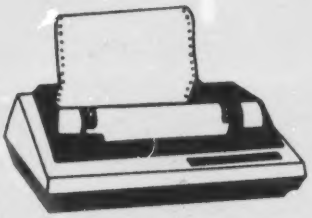
COMPUTER COMPONENTS

Use these basic computer component illustrations to create your own posters or bulletin board figures.

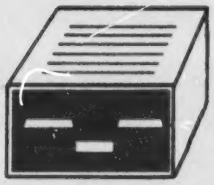
(Terminal)



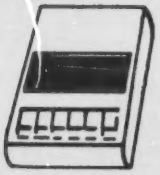
(Monitor)



(Printer)



(Disk Drive)



(Cassette Player)

WHAT COMPUTERS DO

Tell what a computer can or cannot do by marking the correct circle for each example.

	CAN	CANNOT
1. Add a list of numbers very quickly.	○	○
2. Decide what you should wear to school.	○	○
3. Feel bad about missing school.	○	○
4. Alphabetize a list of names.	○	○
5. Think for themselves.	○	○
6. Do something over and over without getting tired.	○	○
7. Figure out how much your groceries cost at the store.	○	○
8. Forget to do something.	○	○
9. Keep track of your spelling scores.	○	○
10. Play a game with you.	○	○

ADVANTAGES & DISADVANTAGES OF COMPUTERS

Decide if each of the following is an advantage or disadvantage of computers. Mark the correct circle.

	ADVANTAGE	DISADVANTAGE
1. Computers can repeat things endlessly.	○	○
2. Computers are expensive.	○	○
3. Computers can work faster than people.	○	○
4. Computers remember everything you tell them.	○	○
5. Computers rely on a power source, such as electricity, to run.	○	○
6. Computers can solve problems.	○	○
7. Computers must be given correct instructions.	○	○
8. Computers cannot make decisions.	○	○
9. Computers are controlled by people.	○	○
10. Computers break down.	○	○

WHAT IS A COMPUTER?

REVIEW

CIRCLE THE CORRECT ANSWER

1. A computer is
   A. A machine that handles information very quickly
   B. Exactly like a calculator.
   C. A tool used only in schools.
2. The major components of a computer system are
   A. Disk drive, terminal, and printer.
   B. Video monitor, terminal, disk drive, and printer.
   C. Printer and terminal.
3. One disadvantage of computers is:
   A. They need electricity.
   B. They remember everything they are told.
   C. They work faster than people.
4. One advantage of computers is
   A. They never break down.
   B. They think by themselves.
   C. They work faster than people.
5. Computers
   A. Have no memory.
   B. Get tired more quickly than humans.
   C. Work very quickly and accurately.
6. A computer can
   A. Add a list of numbers quickly.
   B. Control people's lives.
   C. Think for itself.
7. A computer can
   A. Feel bad about school.
   B. Keep track of spelling scores.
   C. Decide how much you should eat.
8. A computer
   A. Remembers only words.
   B. Remembers only numbers.
   C. Remembers words and numbers.

How Do Computers Work?

A COMPUTER ADVENTURE

Below are a lot of words people use when working with Computers.

Home	Hardware	End
Ram	Software	New
Rom	Terminal	List
Escape	Monitor	Load
Save	Floppy Disk	Catalog
Print	Disk Drive	Lock
Delete	Flow Chart	Unlock
BASIC	Run	Peek
Let	Text	Poke
If Then	Input	Graphics
Return	Output	Bytes
Reset	Processing	Bits
Shift	Memory	Boot the System
Control C	Cursor	Character
Repeat	Toggle Switch	Printer
	Command	

Go to the next page

A Computer Adventure

Use as many of the words as you can to go on your own computer adventure. You may want to use the word character as the main person in your story.

Computer Word Search

COMMON COMPUTER TERMS

S L Q T O Z U E V U E X V P D I R H Q Y N T R G G H L G P L L S
U N K C X J R O F U O N O N T U G V J H Z L U I G E Z Y S S U G
L U C L Q P H C K M T C B H V Q O D J U J O T F E C T Q J I X X
D O Z P E O I Y P V T G X Z I K I Q L H W Y J K M U S G W R E T
I T W A R U A E I I M C C B A S B K C U R S O R U J H K I W H C
V N U S C C O A U A Y Y Q W S P P H L O K G S K I C O Y N C O K
B I L M J X V Y R H K C Z Q O N F A V M I D E Y T G F K P R E W
A B V W E K W G I Q P V V D F G A Q C D G E H I J H E R U Q L A
G A Q S V M O O A M R O A X T U B B G E B D W X L M J P T S O M
G S C O R R O Z C P O P P T W H X H D S B S Q E B E H S V I C V
R M I E P U K R A T F G R E A U P I S R E A J C C N R D E V A R
W T W B G V V G Y A W G J Q R Y S N U L C J R O Z U Q K W G O Y
T T Y J A E X W K G M Q R N E A D B G R H R H V B K F J V H X F
V E C E C R P B O L Y P A X T X Z G L V A A A Z U G S L O A D H
H X S G Z G E L G T K C R Y W X O U H L R F R O Y P C X P F C Q
Y K Y R T Q A M R B Q O X I L T V A L N A H D Y M O F D L Y X J
G J L X M T L A P W W M G B N H K G Y D C L W K B S U R M S I L
G P I Y A H O U O F O M W V I T D K Y S T D A Z Z H O L F W N J
F M I C X P D U S T A A R C O T E I K X E A R Y T Y A U Y F T R
P J I T Y Q Z O I T L N G N X R A R J O R D E I P N X V T F T J
L J O P R O C E S S W D N L W H B E V G X T K D I P F C I P A H
Y V V U Y J H K H H W S A D C T V X I N B F H M L X R H D C U H
X H V K C O E B W L C Z J I S I H C I O R U R S B I S U W O P T
M J J F O E Z I P N R M V E R U D C I K Q E Y F O U S L N M O R
C B X J D M Z Y Z O M I X D U E E E H H T I S M Z T W T V P J U
H B M N T C L P T W P Z K E J M W J J H W Q S Q R S C F G U W Y
S M O D K G R I G U Y S W O J X F V F E W A V M B E N K M T E F
M L X M S K N I B W I P P K K O A I O R F H H K Y S T P I E K B
T Y K N X O G P A D Z Q V T O U T O E R D H A K E O M U R R A M
M R J J M K C S S L A N N E P N A Z F L G O A R U B E H R I J Q
L N V W I E F V I U J P Y M I M P J F B B K H R T D O I G N M Y
O K N O S N D S C Y A P E M B R Q E W L P Z O O K R N W Z E P V

THERE ARE 25 WORDS HERE - CAN YOU FIND THEM?

HERE ARE THE WORDS TO LOOK FOR:

BASIC
CHARACTER
COMPUTER
DISKDRIVE
INPUT
LOAD
MENU
OUTPUT
PROCESS
RETURN
SHIFT
SPACEBAR
TOGGLESWITCH
CATALOG
COMMAND
CURSOR
HARDWARE
LIST
MEMORY
MONITOR
PRINTER
PROGRAM
RUN
SOFTWARE
TERMINAL

20

Computer Terms
(Advanced)

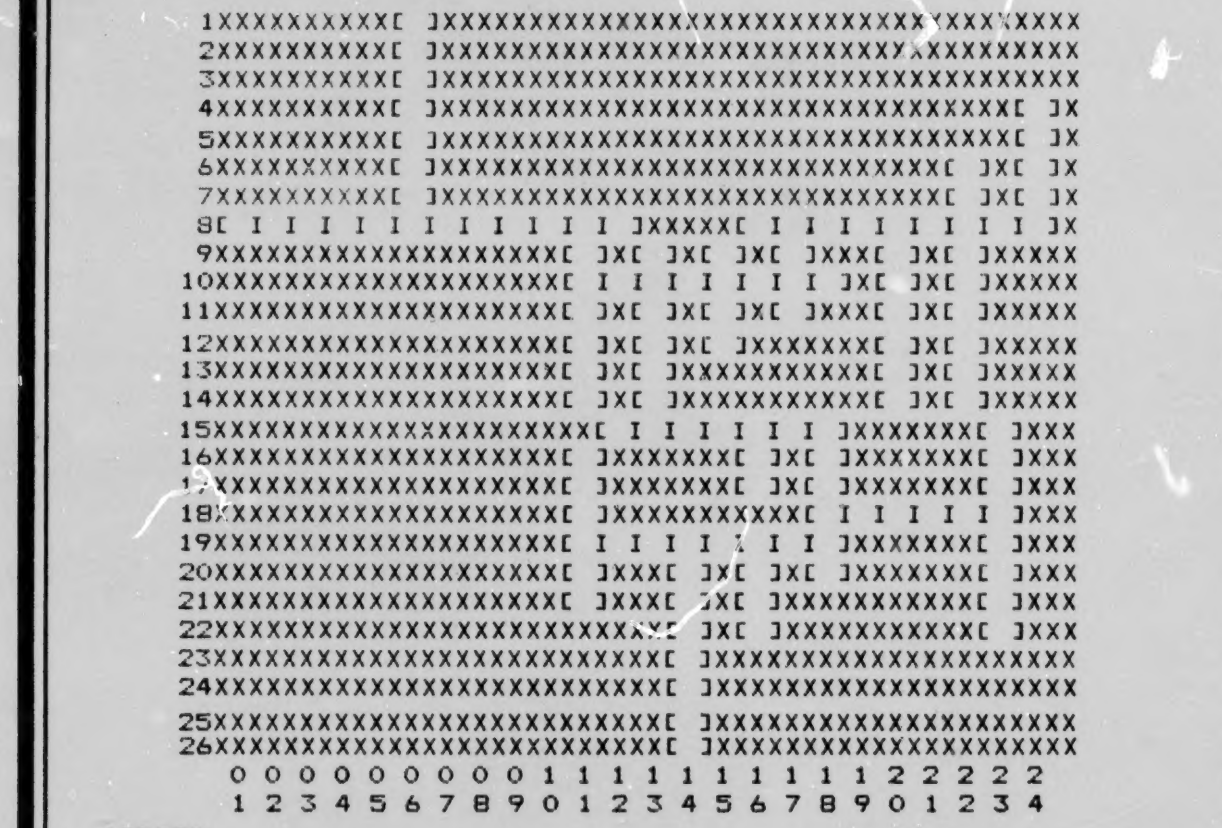
X E M M J S I H U T B E F O E A T O G G L E S W I T C H J S L X
K Q U T O P Y F T L J H H T M C F U Y H R R I C N B E I F H A P
A C S T Z G X E R P I P U L F P P Q Z A Z S A K T K G I G F U I
T H W I H T A N Q I M S Y P Q C S E W R K B S R W T U U O L D R
M O N I T O R D C U I H E Z I C I T A Y V M M D U Q P V C T D F
Q Z R G I P R O C E S S K Q I Q F B M D Y I U E S O Z T W W S J
Y Q Z H W M Q D B O Y V B H A O W C C Y T N T K M T I L T E J T
C O M M A N D E Y F V U P F S T N Y Y Z D R Z I H O L E Y I M M
W U P F F S C L O O J A A K F U V A R Q A R P I E A R T F N U S
X M T Q B H E E B V R B F I R M G B F H J X V I N K X Y U S Q J
W E S V D O W T L G E V H M G P A A C U A B O I X Q G W C A A G
V N H S V W P E O G K S X B K M S W D D F D M U W D T N V M R G
Z U X X S B L J C C S J P D D N O X X V X R I J T S A V E M D D
T W E L T F M E K E D J L X H L U T E L E F R O I P W O A R O M
F B F V E K M K T D R O T P F G J P B T L E C L W C U R J I K K
I L E B H W G Y W P R E N X G K A U M P T J E G I G N T B V F N
Z E W K B T B X X T C L S M P C D E H N R U H A N W N E A F P X
R W L W G P M I N D A T A E S O W T I W S O L G H Z K P S R X Y
X T R J H G Y O K X P O B E T T K R R E M P G H J V M P I K H B
Q B T S U A C Y B Y P E A O Z N P E W T C H G R D M E E C N H J
C J W Z G Z O Q F E V T I A O L F C V H N T C I A N B E S H Z I
Q O F Z C Y Y H R I L O V R E T O R R T U F I W B M L K F L Q K
D F V V K A J A R G H O M E O R Z B E S A A A A E B A O L B R G
I Y S P K A W D O H V S T C U R S O R T O H I G M V Z F A H U Z
W Z T P S D K L H M R T U V H B G U S R U A R S N A E F X D L I
T Q B S R S A L M A Z X E S K A X T N C G R Q V A S I Y Y D Q S
A N W A I T O D B H A U K X K M R G X L Y S N C O L L N M Q D Z
N Z H D A S C E M P Z B M L T V L A X D O O L I H S R Y I Z B Q
A T Y C V M C B I T S N E W T R O A C E N C D N T Q L Y S D B W
T X W U G A E I W M Q L B J J Y M M G T F J K P A V P B W U Z A
S I A W P E B U N Y M F V J S O N V L S E T P U P R I N T W Y I
O L H S L N I X U N H H Z J N S M A P M M R G T P K K T Y R H P

THERE ARE 47 WORDS HERE - CAN YOU FIND THEM?

HERE ARE THE WORDS TO LOOK FOR:

BASIC
BOOT
CATALOG
COMMAND
CURSOR
DELETE
END
FLOWCHART
HARDWARE
INPUT
LIST
LOCK
BITS
BYTES
CHARACTER
CONTROL
DATA
DISKDRIVE
ESCAPE
GRAPHICS
HOME
LET
LOAD
MEMORY
MENU
NEW
PEEK
PRINT
PROCESS
RAM
RETURN
RUN
SHIFT
SPACEBAR
TEXT
UNLOCK
MONITOR
OUTPUT
POKE
PRINTER
PROGRAM
RESET
ROM
SAVE
SOFTWARE
TERMINAL
TOGGLESWITCH

Computer Crossword



ACROSS

[8 , 1] SWITCH TO TURN ON POWER

[8 , 16] DIAGRAM TO SOLVE PROBLEMS

[10 , 11] DEVICE WITH A KEYBOARD

[15 , 12] TELLS THE COMPUTER WHAT TO DO

[18 , 18] ANSWER TO A PROBLEM

[19 , 11] USED TO PUT SPACES BETWEEN CHARACTERS

DOWN

[1 , 6] COMPUTER MACHINERY

[4 , 24] INFORMATION FED INTO THE COMPUTER

[6 , 22] A NUMBER OR SYMBOL

[8 , 11] A LIST OF PROGRAMS

[8 , 17] LOADS PROGRAM INTO COMPUTER'S MEMORY

[8 , 20] DIRECTION YOU GIVE TO A COMPUTER

[9 , 13] MACHINE TO PRINT THE OUTPUT

[9 , 15] RECORD-LIKE MATERIAL CONTAINING PROGRAMS

[15 , 16] COMMAND THAT MAKES THE PROGRAM WORK

[15 , 18] DEVICE CAPABLE OF STORING INFORMATION

[15 , 23] DISKS OR CASSETTES

[16 , 11] BLINKING SQUARE

[19 , 14] ELECTRONIC MACHINE

[19 , 16] TURNING ON THE COMPUTER

COMPUTER MATCH GAME

1. Hardware
2. Software
3. Floppy Disk
4. Disk Drive
5. Space Bar
6. Monitor
7. Catalog or Menu
8. BASIC
9. Return
10. Terminal
11. Toggle Switch
12. Character
13. Command

____a direction you give the computer.

____a list of programs on a disk.

____long bar on the keyboard which is usually used to give spaces between characters or tc continue the program.

____an easy computer language used by beginners.

____record-like magnetic coated piece of material which contains programs or on which information can be recorded.

____a number, letter or symbol to be typed.

____the disks containing programs that are used in the computer.

____Unit which can be used by computer to read or record disks.

____the complete machinery needed in a computer set up.

____switch to turn power on or off on the terminal.

____TV-like unit used to display information.

____The device with a keyboard like a typewriter that processes information. Means by which one communicates with the computer.

____what you must press every time you type something in on the computer. The most important key on the keyboard.

COMPUTER MATCH GAME

1. Escape
2. Print
3. Home
4. Save
5. Data
6. Flow Chart
7. Ram and Rom
8. Run
9. Input
10. Output
11. End
12. New
13. Reset
14. Cursor
15. Processing
16. Memory
17. Graphics
18. Control C
19. List
20. Program

____Records your program on disk or tape.

____Types of computer memory.

____An instruction to the computer which tells it to type out a certain thing.

____A key which can be used to get out of a program.

____Information fed into the computer.

____Creates pictures on screen.

____A command to let the computer know you are starting a new program.

____A device within the computer capable of storing information.

____Set of instructions telling computer what to do.

____A blinking square which appears on the screen that tells you the computer is waiting for a response.

____The last statement in your computer program.

____A command telling the computer to execute a program.

____A map or drawing telling the steps needed to solve a problem.

____A command to clear the screen.

____Answer to a problem that the computer gives you.

____Information a computer needs to solve a problem.

____How the computer handles information.

____The program statements listed in order.

____A command to interrupt a program.

____Key that takes you back to the beginning of the program.

COMPUTER VOCABULARY QUIZ

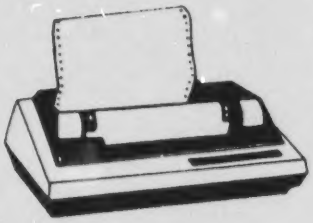
Use the following terms to complete the statements below.

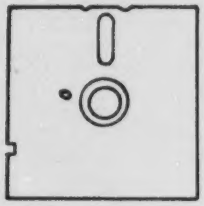
terminal	power light	return
video monitor	cursor	space bar
disk	command	shift
disk drive	program	←
toggle switch	software	
menu or catalog	hardware	

1. The blinking square which appears on the screen to let you know the computer is waiting for your instructions is called the_____.
2. _____is the most important key on the keyboard.
3. The switch in the back of the computer to turn power on is called the _____ _____.
4. The_____ is the TV-like unit used to display information.
5. The light which goes on to let you know the computer is on is the _____ _____.
6. A _____ is a set of instructions telling the computer what to do.
7. _____ acts as a back space to correct typing mistakes.
8. A direction you give the computer is called a _____.
9. _____is a keyboard similar to a typewriter that is used to communicate with the computer.
10. A record-like magnetic-coated piece of material which stores the program is called a _____.
11. _____ is the equipment needed to run the program.
12. _____ _____is the unit which can be used by the computer to read or record disks.
13. The long bar in the front of the keys which you press to leave a space between characters or letters is the _____ _____.
14. _____ ___ _____ is a list of all the programs on a disk.

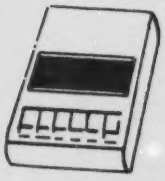
HARDWARE AND SOFTWARE

PRINT "HARDWARE" or "SOFTWARE"
IN THE SPACE PROVIDED BY EACH PICTURE

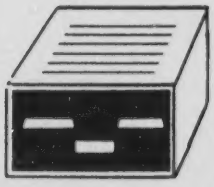




1._____ 2._____ 3._____



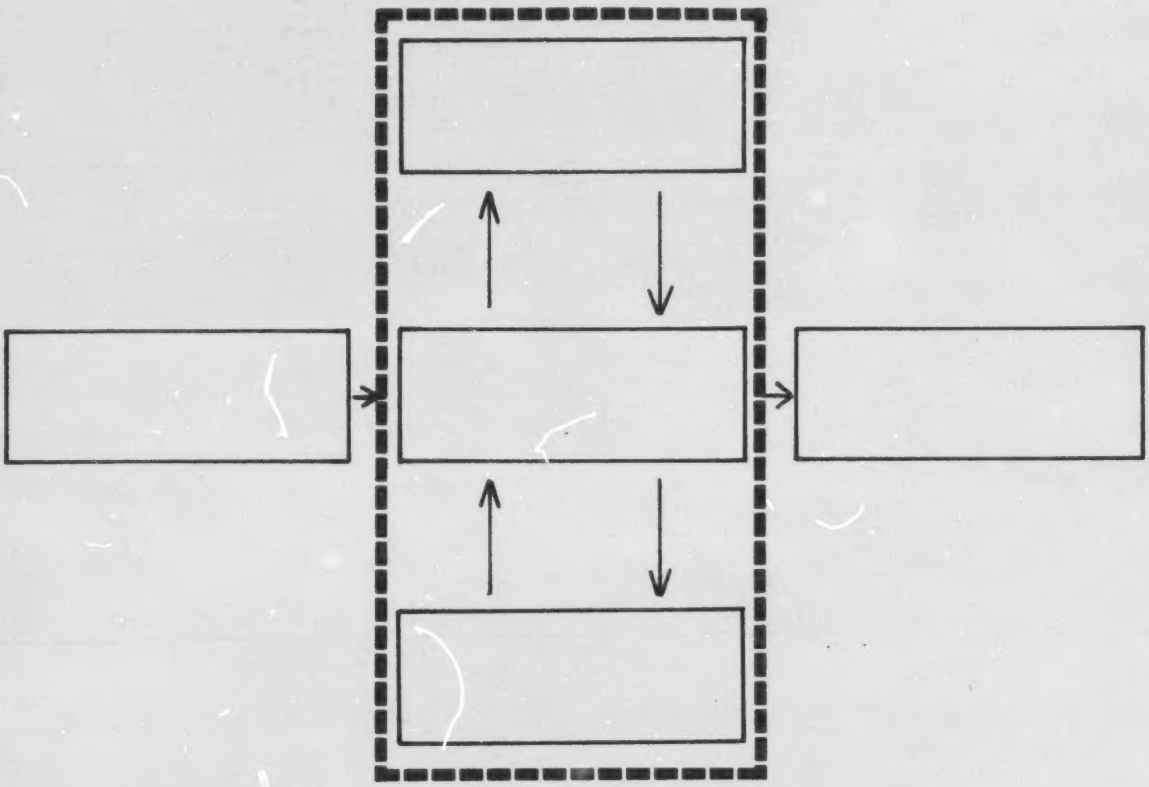
4._____ 5._____



6._____ 7._____

PARTS OF A COMPUTER SYSTEM

Cut out the parts and paste them in the appropriate place.



Memory	**Output**	**CPU**
Input	**Control**	**Arithmetic**

INPUT PROCESS OUTPUT

CIRCLE THE CORRECT ANSWER AFTER EACH STATEMENT.

		INPUT	PROCESS	OUTPUT
1.	The video monitor displays the menu.	I	P	O
2.	The computer follows instructions written by Ruth.	I	P	O
3.	Lynn types in a list of numbers.	I	P	O
4.	Lynn inserts a disk into the disk drive.	I	P	O
5.	The computer solves a problem.	I	P	O
6.	Ruth types "RUN HELLO" on the keyboard and pushes the return key.	I	P	O
7.	The answer to a problem is displayed on the screen.	I	P	O
8.	Steve pushes the switch on the terminal.	I	P	O
9.	The printer lists the program.	I	P	O
10.	The computer uses information from the disk.	I	P	O

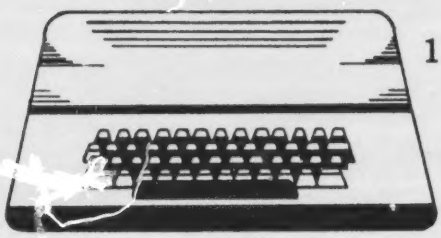
MEMORY TYPES

A computer has two types of memory. They are known as ROM (Read Only Memory) and RAM (Random Access Memory). ROM is the memory built into the computer that allows it to do such basic things as solve math calculations and alphabetize. RAM is the memory that the person using the computer can program. It can be changed and erased as needed with each program run.

Cross out the items that do not belong in each list.

RAM

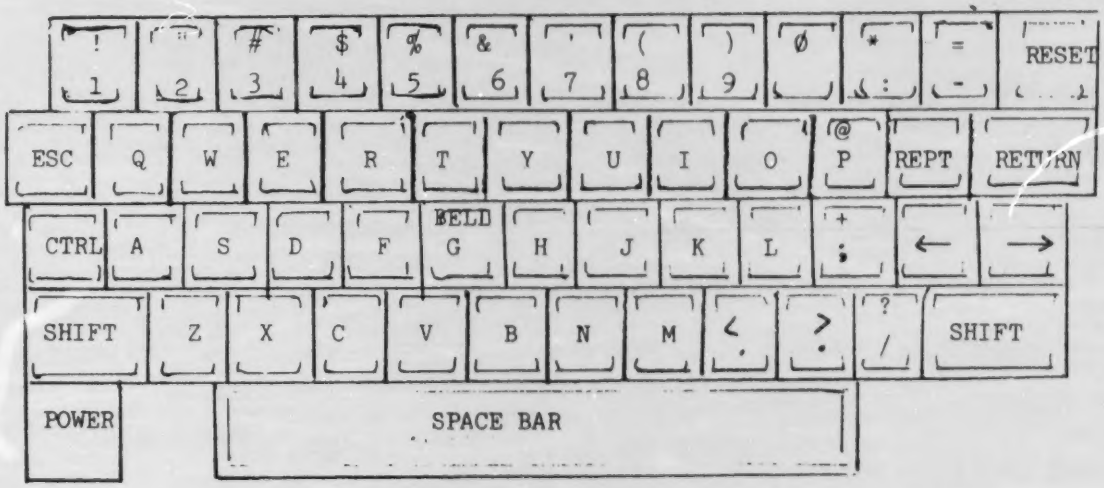
1. Ability to alphabetize.
2. Giving special instructions to print out information.
3. Ability to multiply numbers.
4. The computer language.
5. A program to print out the addition facts.



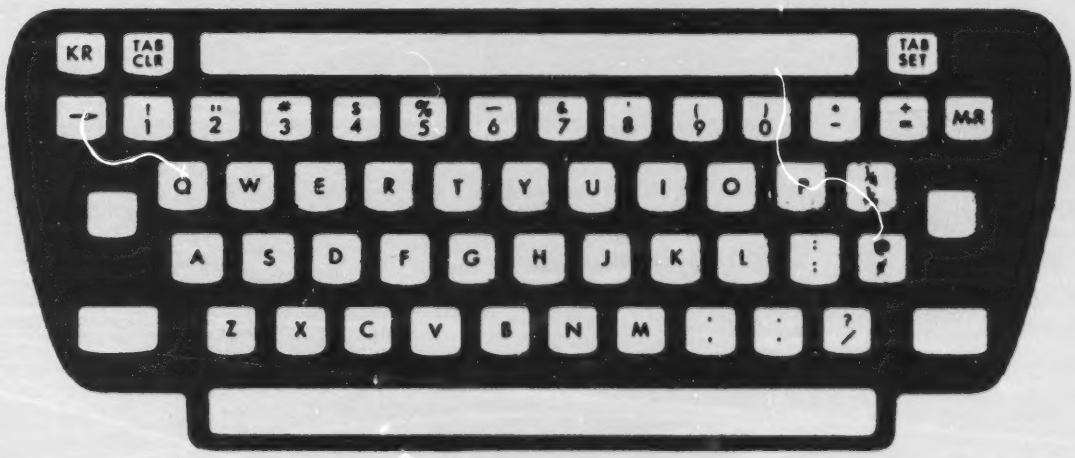
ROM

1. A program to generate a list of names.
2. The computer language.
3. Alphabetizing.
4. Specific directions for running a certain program.
5. Solve division problems.

COMPUTER KEYBOARD



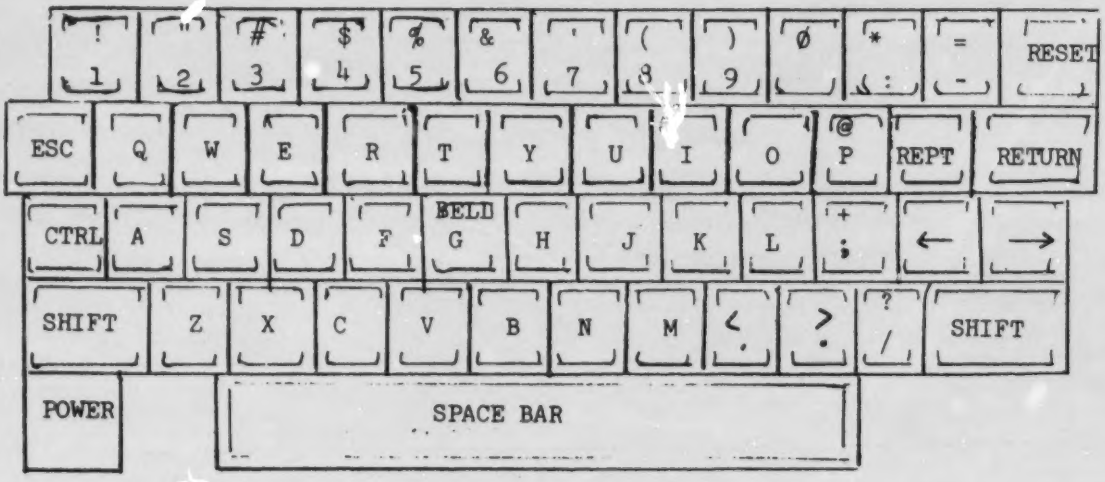
TYPEWRITER KEYBOARD



COMPUTER KEYBOARD

1. Color the letters of your first name in yellow on the keyboard.

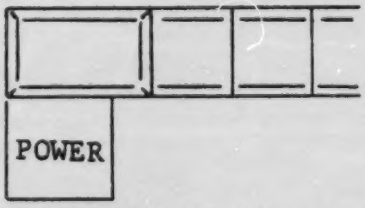
2. Circle the letters of your last name in blue on the keyboard.



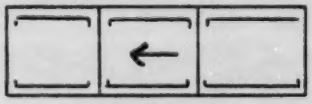
KEYS AND SYMBOLS TO KNOW

KEY	DEFINITION
0	represents zero.
+	represents addition.
−	represents subtraction.
*	represents multiplication.
/	represents division.
REPT	means repeat. By holding down on this key and touching another key, the character will continue to repeat itself across the screen.
ESC	means escape. To get out of some programs you hold CTRL key down, touch C and then ESC.
CTRL	means control. This key is used in a combination of ways. Example: If you want to get back to the beginning or menu of a disk, hold down on CTRL, touch C, then RESET. Type RUN HELLO. This should bring you back to the menu or catalog.

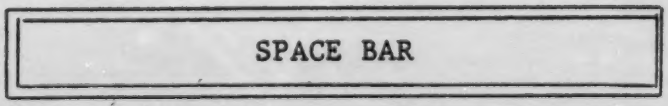
OTHER CONTROLS



Power light indicates the computer is on.



Back space used for correcting errors.

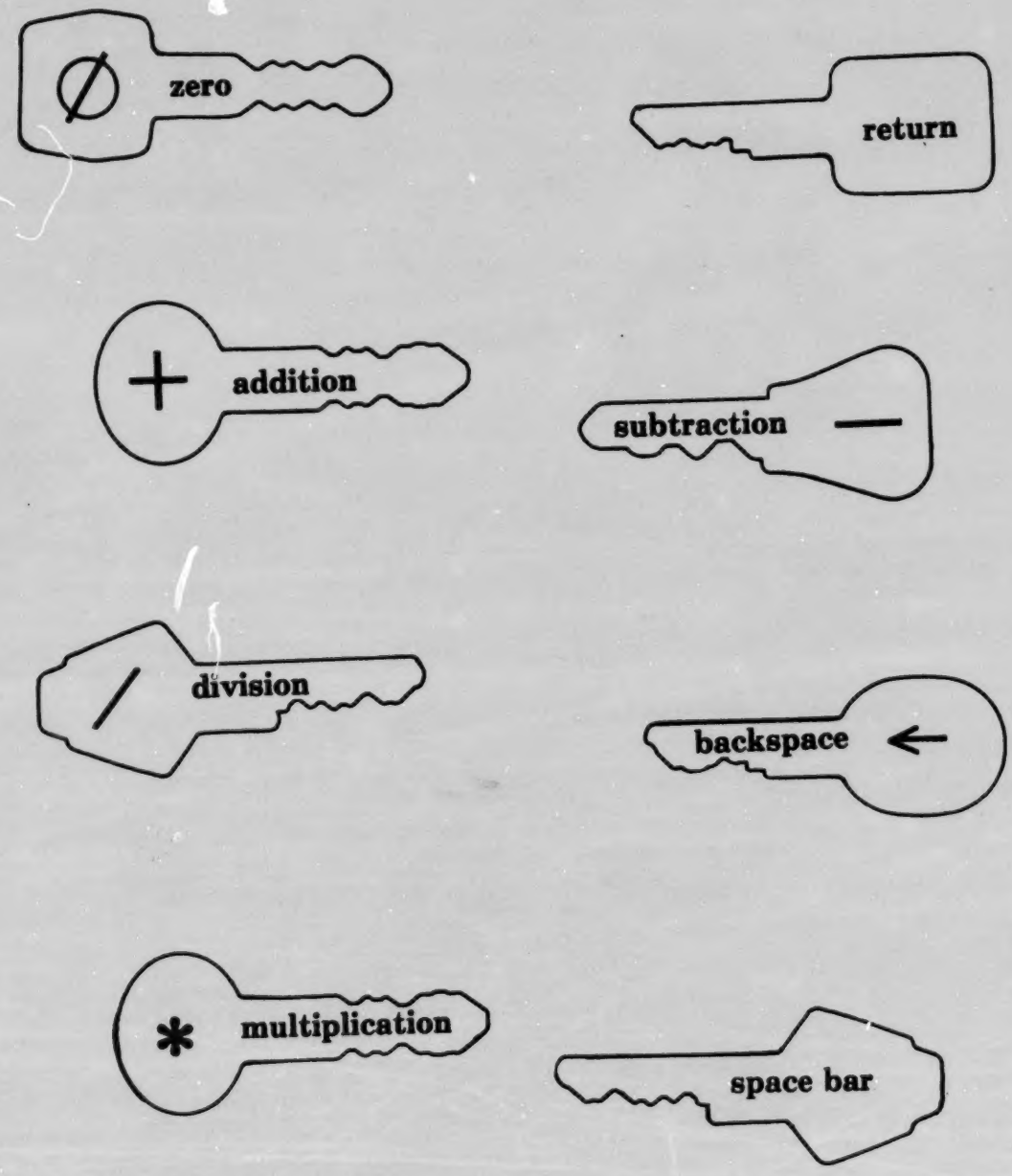


Space bar to give space between words or to continue on in a program.

Return key is always pressed after typing a response or command.

KEYS TO REMEMBER

Locate the following keys on the keyboard and then color each one.



COMPUTER FLASHCARDS

∅	**Zero**
+	**Addition**
—	**Subtraction**
*	**Multiplication**
/	**Division**

COMPUTER FLASHCARDS

Backspace	◄ Key used for correcting typing error.
Return	Key which is pressed after typing a response or command.
Space Bar	Bar pressed to give space between words or to continue on in a program.
CRTL	Control Key used to get back to the beginning of the menu.
SHIFT	Key used to get the upper keys on the keyboard.

35

HOW DO COMPUTERS WORK?

REVIEW

Circle the appropriate answer after each statement.

		True	False
1.	A direction you give to the computer is called a command.	T	F
2.	Hardware is the equipment needed to run a program.	T	F
3.	A record-like magnetic-coated piece of material which stores the program is called the terminal.	T	F
4.	The shift is the most important key on the keyboard.	T	F
5.	The blinking square which appears on the screen to let you know the computer is waiting for your instructions is called the cursor.	T	F
6.	BASIC is a simple computer language.	T	F
7.	A computer operates in four main steps: INPUT►TERMINAL►DISK►MEMORY.	T	F
8.	A microcomputer's memory has two parts - ROM and RAM.	T	F
9.	To get out of a program you hold CTRL key down, touch C and then ESC.	T	F
10.	If you typed 21/3 you would be multiplying 21 times three.	T	F
11.	If you hold down the REPT Key and touch another key, the character will continue to repeat itself across the screen.	T	F
12.	The 0 represents the numeral zero.	T	F

COMPUTER OPERATION

1. You must always press the _____ key after typing a response or command.
2. What is turned on first?
3. Which is done first? (circle one)
   A. Loading the disk into the disk drive.
   B. Turning on the Apple.
4. Explain how you are to handle the disks.
5. What does it mean when the red light goes off and the whirring noise stops?

   Do you ever take the disk out of the disk drive when the red light is on?

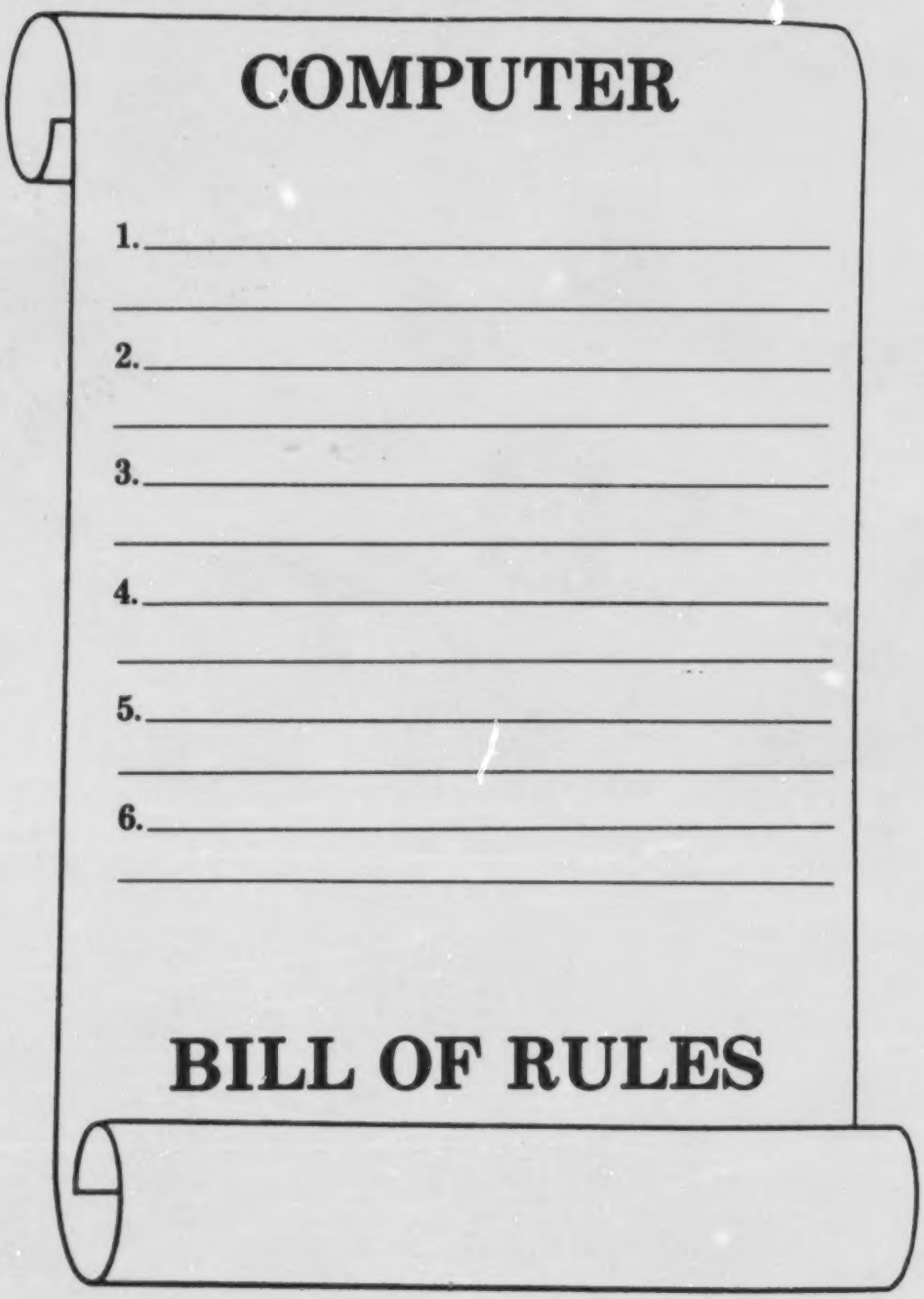
6. What is the power light for?

   Do you ever press it?

7. How do you know when the Apple is ready for your commands?
8. How do you get the top characters on the keys printed?
9. List the exact order of the steps you follow when you are done using the computer.
   A.
   B.
   C.
10. Above all, remember to ask for _____ if you are not sure what to do or if there seems to be a problem.

STUDENT INTERACTION WITH COMPUTERS

Create a list of rules you would use with the computer.



COMPUTER OPERATOR'S LICENSE

This is to Certify that _____

of _____ has passed all
school

requirements for operating the Apple II.

_____ _____
date Media Specialist

COMPUTER CERTIFICATE

This is to certify that

_____

has passed all the requirements

for operating the microcomputer.

_____ _____

Date **Media Specialist**

INTERACTION CHECKLIST

☐ **Drill and Practice**

Title _____

Date _____

☐ **Simulation**

Title _____

Date _____

☐ **Tutorial**

Title _____

Date _____

☐ **Other**

Title _____

Date _____

BEGINNING PROGRAMMING

```
New
10 PRINT          "Hello!"
20 PRINT          "In this Section"
30 PRINT          "you will be introduced"
40 PRINT          "to writing programs."
50 END
```

After your type RUN
the Computer will print:

```
HELLO!
IN THIS SECTION
YOU WILL BE INTRODUCED
TO WRITING PROGRAMS.
```

COMPUTER LANGUAGES

Search for information about computer languages and then write one sentence about each language.

BASIC _____

_____

PASCAL _____

_____

COBOL _____

_____

FORTRAN _____

_____

LOGO _____

_____

USING PROGRAMMING COMMANDS

Sample:
Program to multiply 6 x 5

```
New
10 let A = 6
20 let B = 5
30 let C = 6 * 5
40 Print "C"
50 End
Run
```

Computer when told to
RUN will print 30

```
New
10 Print "Sylvester Stallone"
20 Print "1410 B Kings Way"
30 Print "Anywhere, U.S.A."
40 Print "97205"
50 End
60 Run
```

Computer will print:
Sylvester Stallone
1410 B Kings Way
Anywhere, U.S.A.
97205

Try typing and running these two sample programs on the computer. You may want to put in your own name and address.

PROGRAMMING COMMANDS

NEW tells the computer you are starting a new program.

LET assigns a number to a memory space.

PRINT is an instruction to the computer which tells it to type out data (information).

END is the last statement in your computer program.

RUN tells the computer to execute or stop a program.

Each line is numbered to tell the computer the property order it should process your instructions.

Sample:
A program to add 20 + 7

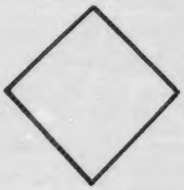
```
New
10 Let A = 20
20 Let B =  7
30 Let C = A + B
40 Print "C"
50 End
Run
```

FLOWCHARTS

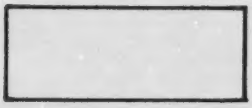
Symbols are used in creating computer programs to help the programmer move from one step to the next.

Flowchart Symbols

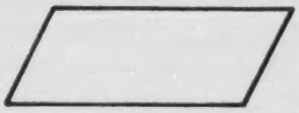
Start/Stop



Decision



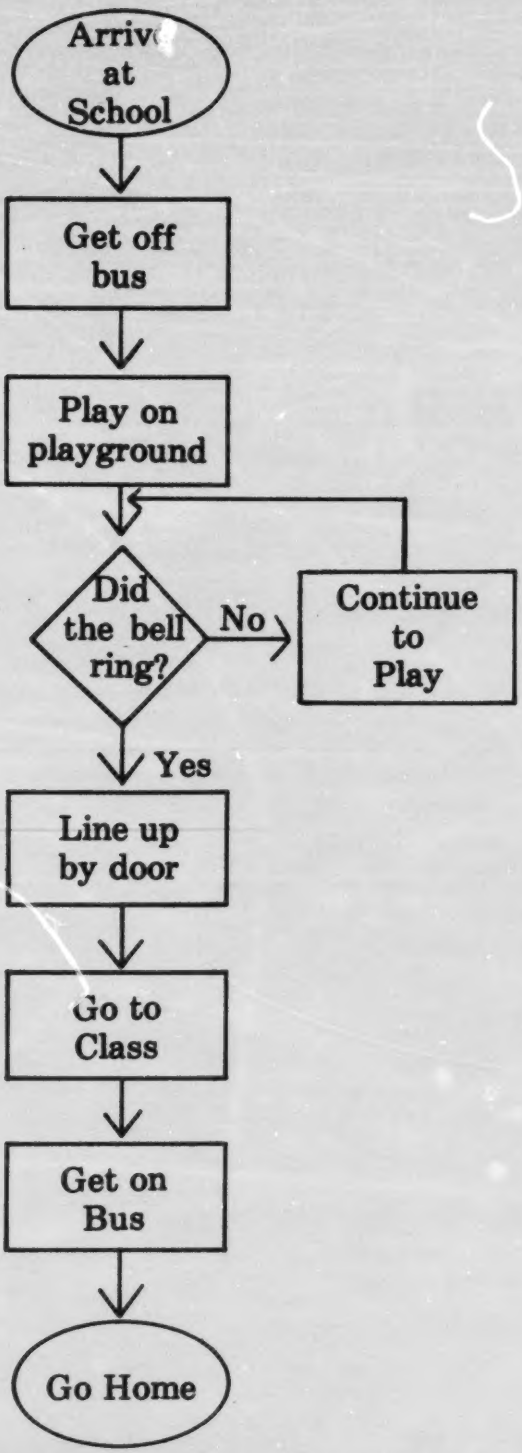
Processing



Input/Output

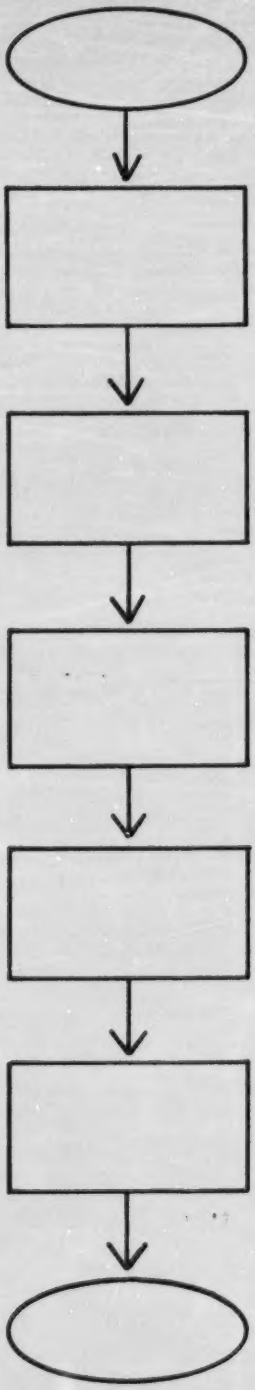
Connects Symbols

SAMPLE FLOWCHART



CREATE A FLOWCHART

Here are steps in a flowchart. Cut out each part. Paste the parts in the correct order on the flowchart.



Sign your name

STOP

Select a book

Read the Book

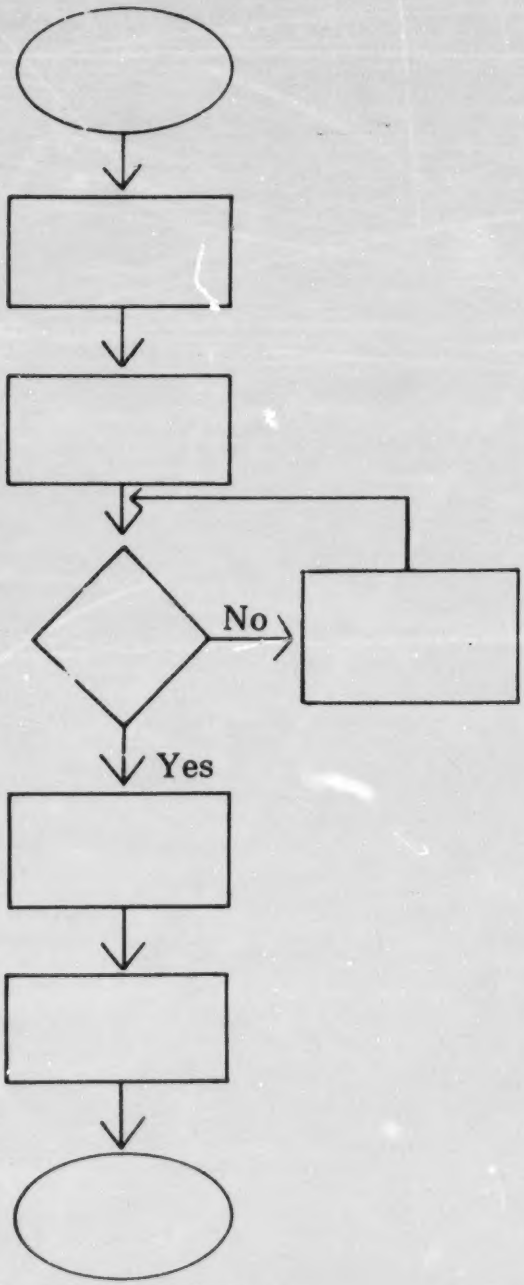
Get date due card

Return the Book

START

FLOWCHART FILL-IN

Fill in the flowchart given below with the steps provided. Make sure you are following the correct sequence of events.



Is the Oven on?

Read the recipe.

STOP

Mix the cookies.

Bake the cookies.

START

Roll the cookies.

Turn oven on.

19

FLOWCHART FUN

Draw a flowchart for the steps you need to follow to use the computer.

PROGRAMMING COMMANDS

PRINT

This statement tells the computer to print information on the screen.

Example: PRINT 4

(After typing PRINT 4 and pressing return, the computer will show the number 4.)

You Type (input)	Computer will show (output)
Print 4 + 4	_____
Print 16 - 8	_____
Print 3 * 3	_____
Print 12/4	_____

Hint: * means multiplication

/ means division

More Print Statements

Adding (") quotation marks to your print command.
Example: Print "4 + 4 =" 4 + 4
Computer will print: 4 + 4 = 8

When expressions are printed inside quotation marks the computer will print them exactly as you typed them in.

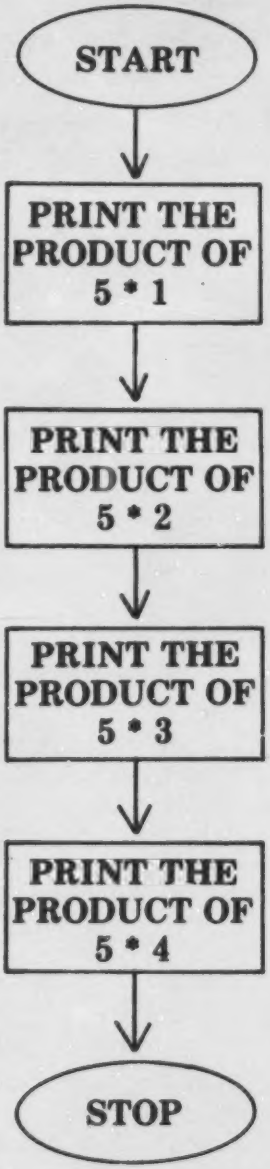
Show what the computer would print out for each expression.

You type (input)	Computer shows (output)
PRINT "6+6=" 6+6	_____
PRINT "10/2=" 10/2	_____
PRINT "HELLO"	_____
PRINT "My name is Betty"	_____
PRINT "Today is Tuesday"	_____
PRINT 6+6	_____
PRINT "Goodbye"	_____

Extra!
Try these on the computer to see if you are right.

FLOWCHART TO PROGRAM

FLOWCHART



PROBLEM

Print out 4 multiples of 5.

PROGRAM

NEW

10 _____

20 _____

30 _____

40 _____

50 END
RUN

Now try running your program on the computer.

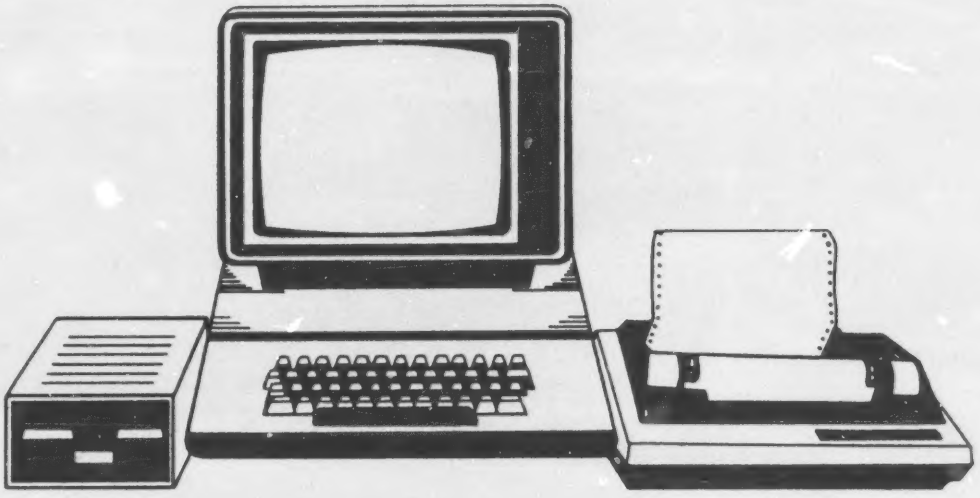
PROGRAMMING REVIEW

Write a computer program for the following:

Add 6, 5, and 10
Substract 12 from 7

Write a computer program to print your first and last name.

EVERYDAY COMPUTERS



COMPUTER ENCOUNTERS

During a course of the day, I discovered a computer was used in the:

WHERE	HOW
Kitchen-	_____
	_____
Telephone Company-	_____
	_____
Grocery Store-	_____
	_____
Restaurants-	_____
	_____
Airport-	_____
	_____
Post Office-	_____
	_____
Doctor's Office-	_____
	_____
Shopping Mall-	_____

ONE OF THESE DAYS?

Make a picture of how your family might use a computer at some time in the future.

IN THE FUTURE?

Write a story about how you think computers will be a part of your life in the year 2000.

EVERYDAY COMPUTERS

Fill in ways computers are used in everyday life.

Area	Uses
Education	
Medicine	
Law Enforcement	
Sports	
Banks	
Transportation	
Business	

COMPUTERS IN CAREERS

Directions:
Match the computer functions with the career by placing the number on the line.

Career	Computer Function
1. Librarian	_____ reading product codes.
2. Nurse	_____ weather map.
3. Secretary	_____ landing planes.
4. Cashier	_____ book inventory.
5. Hotel Manager	_____ flight reservations.
6. Air Traffic Controller	_____ taking temperatures.
7. Travel Agent	_____ student grades.
8. Teacher	_____ dairy herd record.
9. Farmer	_____ word processing.
10. Meteorologist	_____ room reservations.

COMPUTER INTERVIEW

Name of Person _____

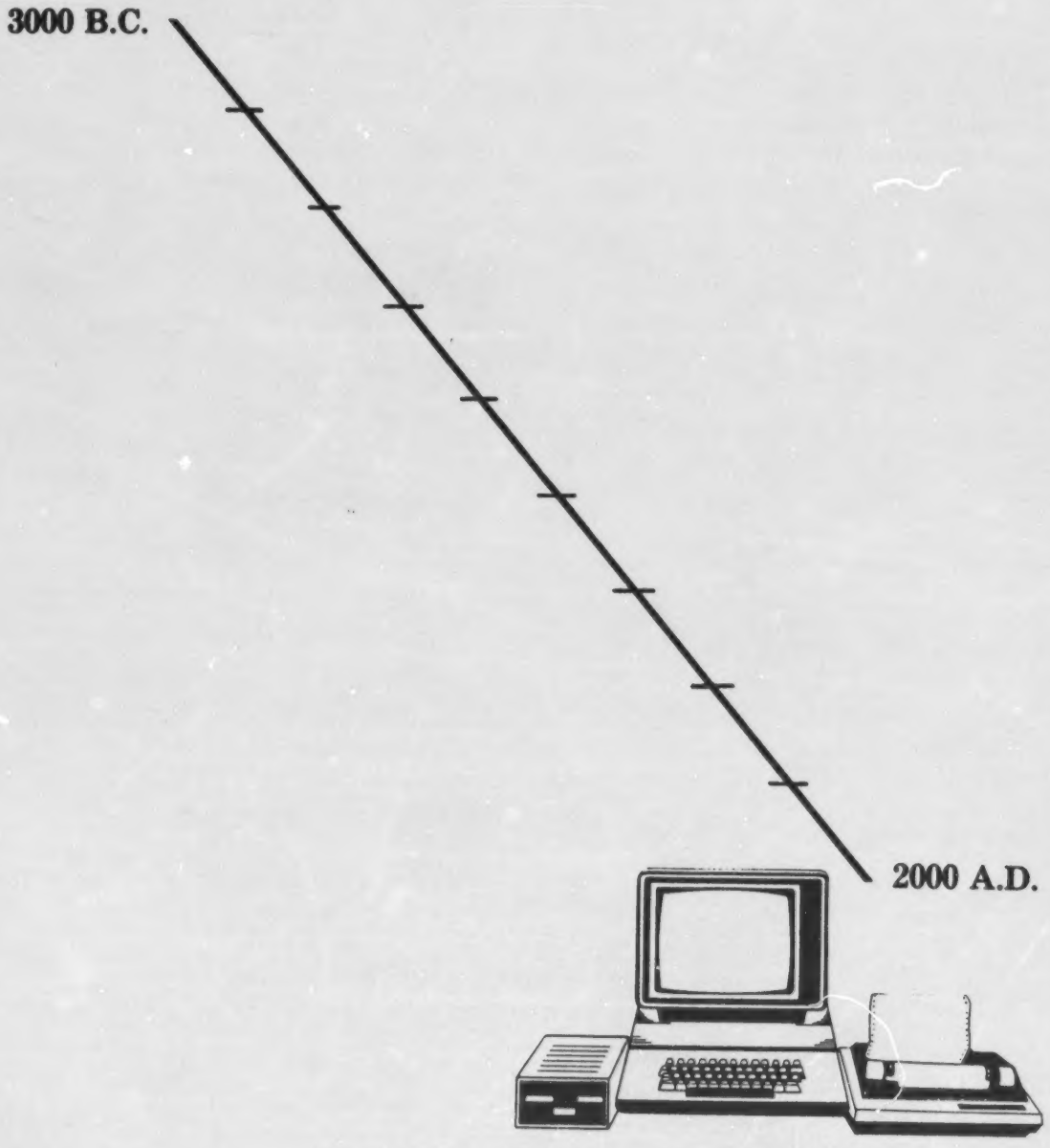
Occupation _____

How computers are involved in their work.

_____

QUESTIONS	ANSWERS
1. _____	1. _____
_____	_____
2. _____	2. _____
_____	_____
3. _____	3. _____
_____	_____
4. _____	4. _____
_____	_____
5. _____	5. _____
_____	_____

HISTORY OF COMPUTERS



Historical Development Of Computers Timeline

Complete this timeline by providing some information about what occurred at each given date.

3000 B.C. _____

1642 _____

1830 _____

1888 _____

1930 _____

1944 _____

1946 _____

1951 _____

1960 _____

1965 _____

1970's _____

1982 _____

2000 _____

THE GENERATIONS OF COMPUTERS

The word "generation" refers to stages in the development of computers. See if you can fill in the missing words in these descriptions of the generations of computers.

FIRST GENERATION:

The first generation of computers came out in 1950. _____ is an example of a first generation computer. These computers were controlled by parts called _____ _____.
They were very _____ machines.

SECOND GENERATION:

The second generation of computers was developed in 1960. They could work much _____ because they were controlled by _____ instead of vacuum tubes.

THIRD GENERATION:

In 1965, the third generation of computers was developed. These machines were controlled by _____ _____.
They can do a _____ calculations a second. These machines are much _____ in size than the second generation computers.

FOURTH GENERATION:

The newest computers have integrated circuits that have been put on a _____. This is known as _____.
These computers are much smaller and _____ than any other previous computer.

STUDENT BULLETIN BOARD IDEAS

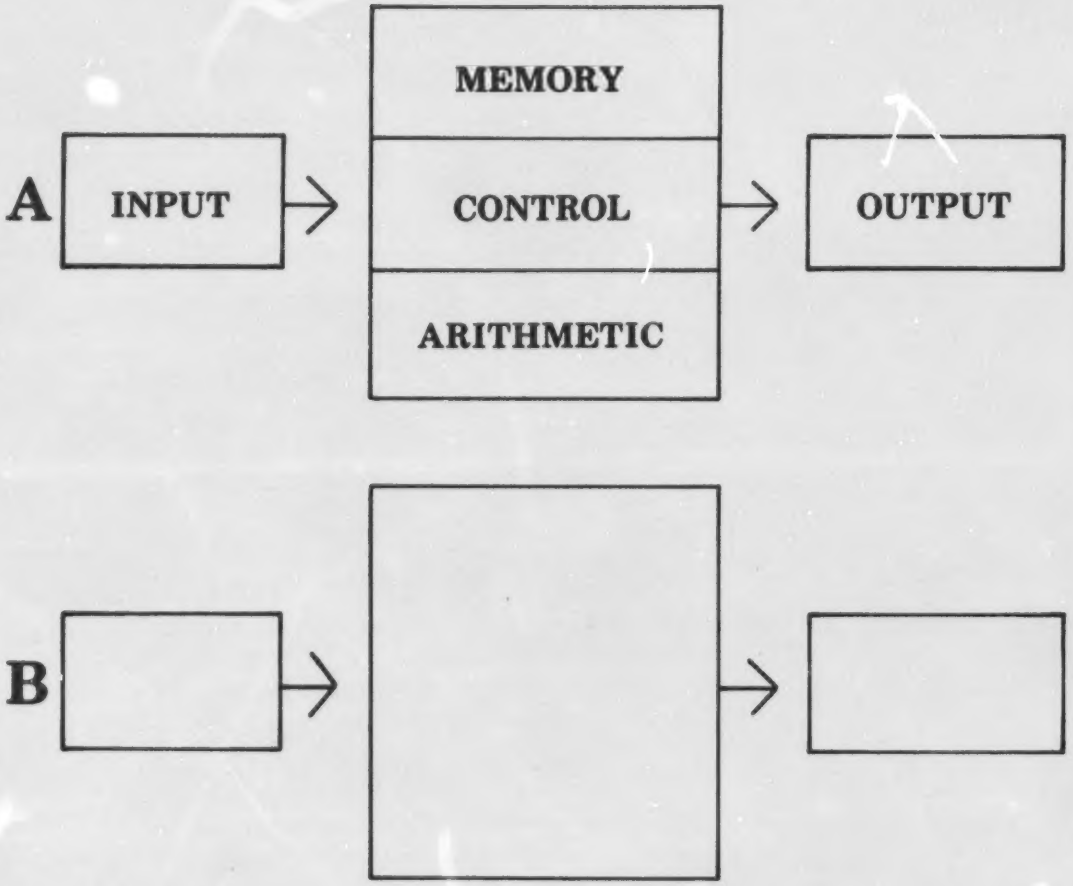
CONSTRUCT A COMPUTER TIME LINE

3000 B.C.

2000

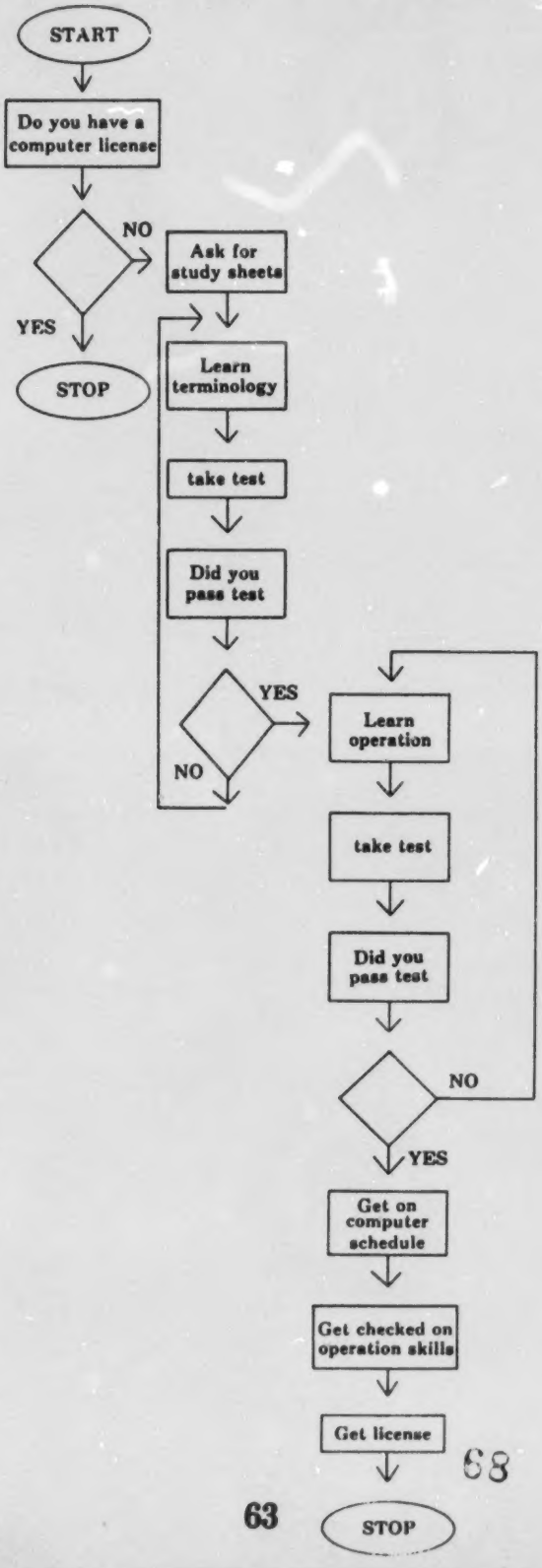
Refer to Student Handbook for specific dates and events.

PARTS OF A COMPUTER SYSTEM PROCESSING

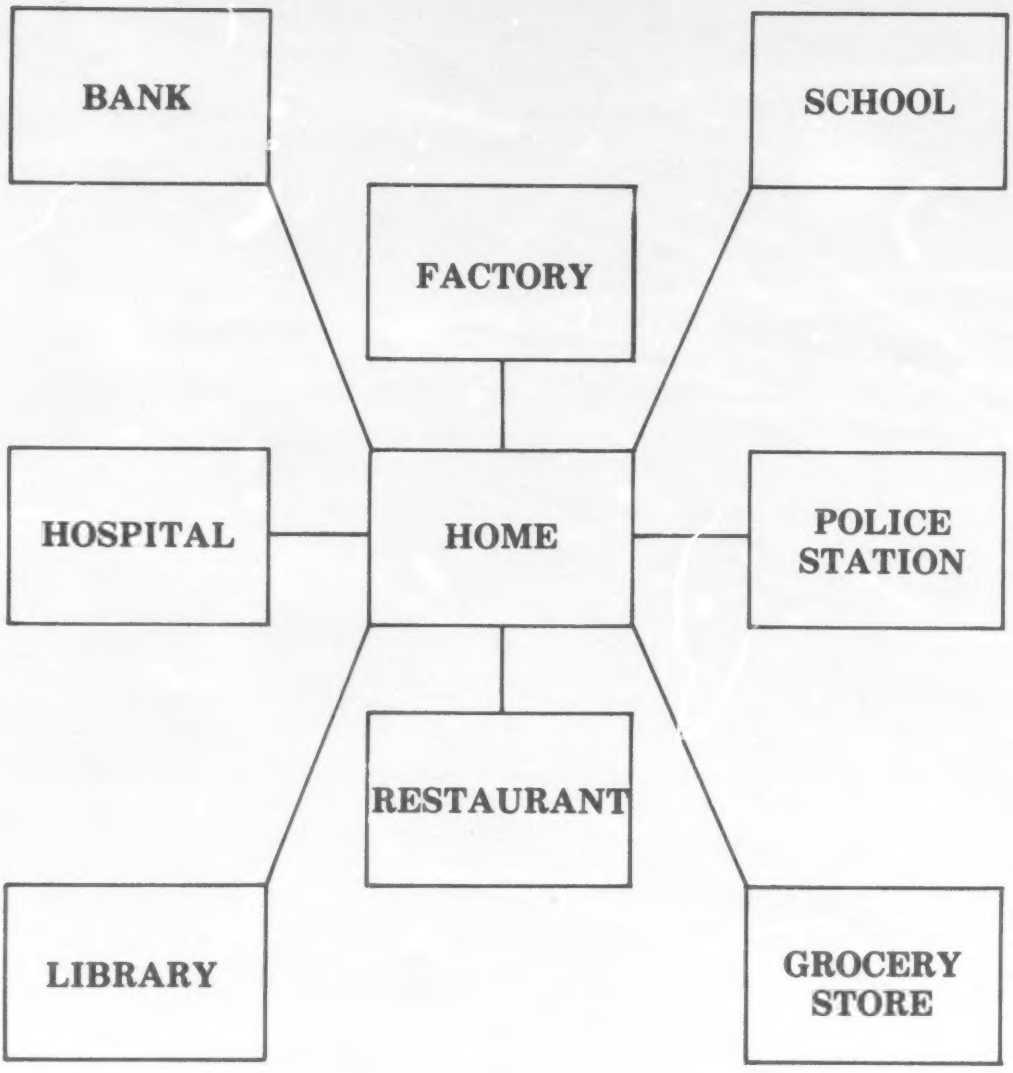


Display parts A & B on the Bulletin Board. In Part B, show a sample situation where the three steps, input, processing and output are used. For example, in a telephone company the computer would keep track of the number of calls and output the billings etc. A similar approach could be used for a grocery store check out.

Construct A Flowchart Showing How to Get Your Computer License



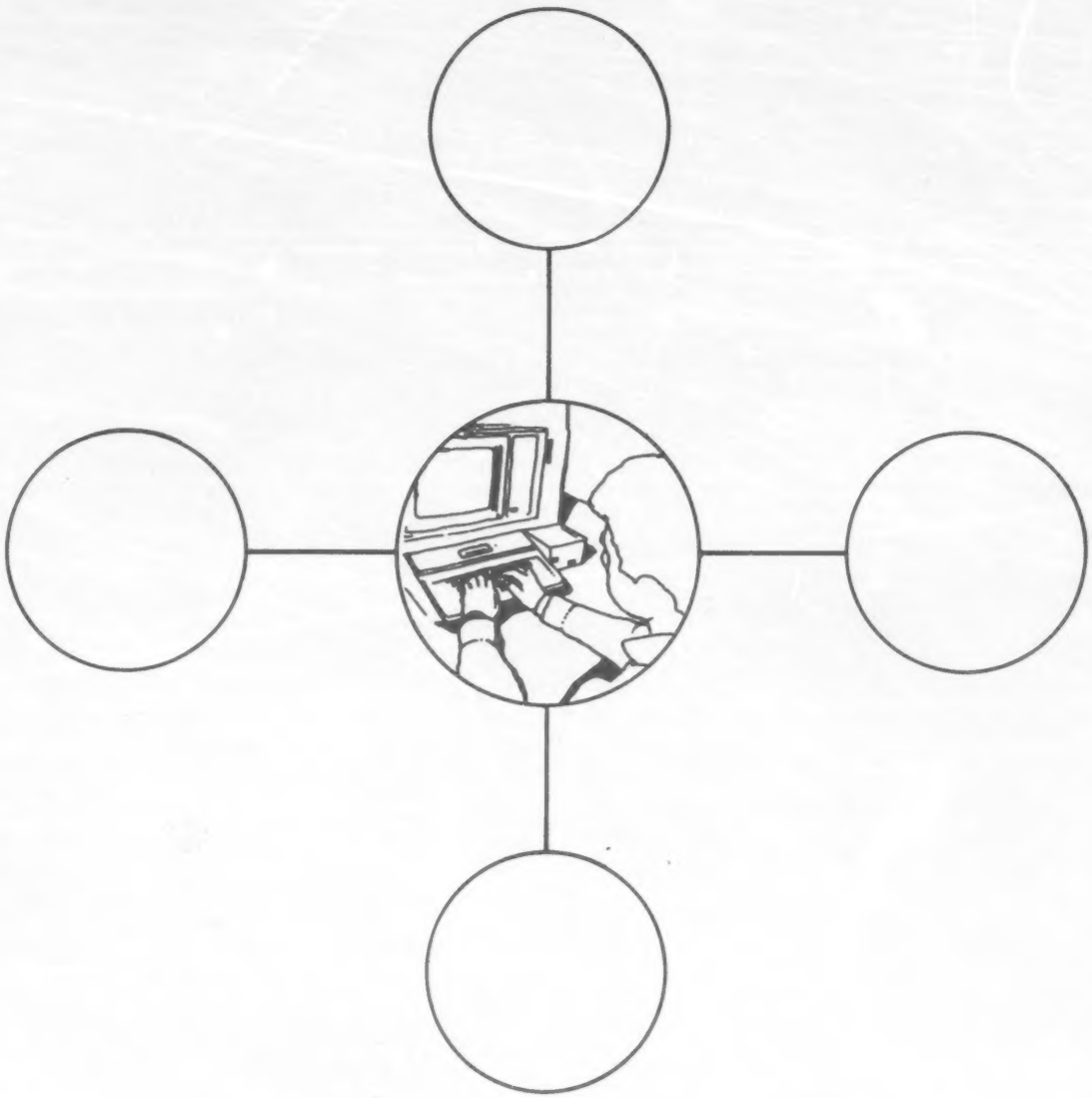
COMPUTERS IN MY COMMUNITY



Provide a picture showing how the computer can be used in each of the above community segments. Students could either draw or locate picture in magazines.

COMPUTER CAREERS

Students could investigate computer careers and show various pictures depicting them.



GLOSSARY

BASIC—An easy computer language used by beginners.
BITS—Storage cells in a computer's memory.
BOOT THE SYSTEM—Turning the computer on; getting it ready to accept disks.
BYTES—A group of bits. The computer usually deals with groups of eight bits.
CATALOG OR MENU—A list of programs on a disk.
CHARACTER—A number or symbol to be typed.
COMMAND—A direction you give the computer.
COMPUTER—An electronic machine that processes information.
CONTROL C—A command to interrupt a program.
CURSOR—A blinking square which appears on the screen that tells you the computer is waiting for a response.
DATA—Information a computer needs to solve a problem.
DELETE—A command to erase a program from the disk.
DISK DRIVE—Unit which can be used by computer to read or record disks.
END—The last statement in your computer program.
ESCAPE—A key which can be used to get out of a program.
FLOPPY DISK—Record like magnetic coated piece of material which contains programs or information.
FLOW CHART—A map or drawing telling the steps needed to solve a problem.
GRAPHICS—Creates pictures on the screen.
HARDWARE—The complete machinery needed in a computer set up.
HOME—A command to clear the screen.
IF THEN—A branching statement used in computer programming.
INPUT—Information fed into the computer.
LET—A command that assigns a number to a memory space.
LIST—The program statements listed in order.
LOAD—Loads a program from a cassette tape into the computer's memory.

LOCK—A command used to prevent a program from being erased from the disk.
MEMORY—A device within the computer capable of storing information.
MONITOR—TV-like unit used to display information.

NEW—A command to let the computer know you are starting a new program.
OUTPUT—The answer to a problem that the computer gives you.
PEEK & POKE—Advanced computer commands used by professional programmers.
PRINT—An instruction to the computer which tells it to type out a certain thing.
PRINTER—Machine used to print the output from the computer.
PROCESS—How the computer handles information.
PROGRAM—A set of instructions telling a computer what to do.
RAM and ROM—Types of computer memory.
RAM—Random access memory.
ROM—Read only memory.
RESET—The key that takes you back to the beginning of the program.
RETURN—What you must press every time you type something in the computer. The most important key on the keyboard.
RUN—A command telling the computer to execute a program.
SAVE—Records your program on a disk or tape.
SHIFT—A key used to get the upper key on the keyboard.
SOFTWARE—The disks or cassettes containing programs that are used in the computer.
SPACE BAR—Long bar on the keyboard which is usually used to give spaces between characters or to continue on in a program.
TERMINAL—The device with a keyboard like a typewriter that processes information. Means by which one communicates with the computer.
TEXT—Reserves the entire monitor screen for printing letters or numbers.
TOGGLE SWITCH—Switch to turn power on or off on the terminal.
UNLOCK—A command used that allows a program to be changed or erased.